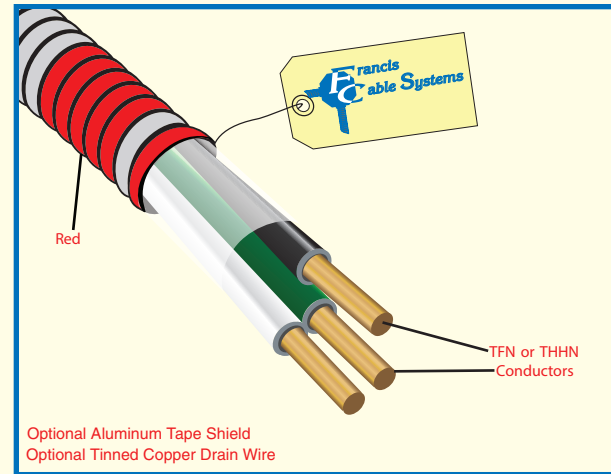



Francis Cable Systems Metal-Clad Fire Alarm Cable

Applications suitable for use as follows:

- Wiring in Plenums, Ducts, or Other Spaces Used for Environmental Air Handling Purposes per NEC 300.22(B/C) & 760.71(D).
- Power-Limited and Non-Power Limited fire alarm circuits, including smoke detectors, bells, horns, fire alarm control panel equipment, and initiation and signaling devices.
- Class 1, Class 2, and Class 3 remote control, signaling, and power-limit circuits.
- Power, lighting, control, and signal circuits.
- Fished or embedded in plaster.
- Concealed or exposed installations.
- Places of Assembly per NEC 518.4 and Theaters per NEC 520.5.
- As aerial cable on a messenger
- Installation in cable tray and approved raceways.
- Under raised floors for information technology equipment conductors and cables per NEC 645.5(D) & 645.5(D)(2)



Standards & References

- UL 83, 1063, 1569, 1424 
- NFPA 262-2002 Standard Method of Test For Flame and Smoke Wire and Cables for Use in Air-Handling Spaces
- IEEE 1202 (70,000 Btu/hr) Vertical Cable Tray Flame Test
- Federal Specification A-A59544 (formerly J-C-30-B)
- 2011 National Electrical Code
- Approved for the State of Rhode Island Fire Systems
- Listed for use in UL 1, 2, and 3 Hour Through-Penetration Firestop Systems
- NFPA 70 (NEC)
- Made in the U.S.A. fully pre-assembled and inspected

Construction

Francis Cable System Metal-Clad Fire Alarm Cable is constructed with soft-drawn copper conductors and insulated with flame-retardant and heat-resistant PVC with an outer oil- and gasoline-resistant nylon jacket. Type THHN/THWN conductors are provided for sizes 14 AWG and 12 AWG cables; Type TFN conductor are provided for sizes 18 AWG and 16 AWG cables. The circuit conductors and a green insulated grounding conductor are cabled together and a polyester or polypropylene tape is wrapped around the assembly. Upon request, an optional Film/Foil Aluminum Laminating Shielding Tape with a tinned copper drain wire/grounding conductor is wrapped over the conductor assembly. Aluminum or Galvanized Steel interlocking armor is applied over the assembly. Multiple twisted (cabled) conductors pairs/groups with optional shield(s) are available. The cable is dual rated as 90°C dry, 600 Volt Type MC and 105°C dry, 300 Volt Type FPLP cable.



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Cable Conductor Type	Trade Size Size / # of Cond.	Grounding Conductor	Approx. Overall Diameter (inches)	Weight (lbs. / 1000ft)	Standard Package
					Reel (feet)
Solid - TFN	18 AWG / 2	18 AWG Green	0.470	57	1000
	18 AWG / 4		0.470	76	1000
	18 AWG / 6 §		0.470	98	1000
	18 AWG / 8 §		0.495	112	1000
	16 AWG / 2	16 AWG Green	0.470	69	1000
	16 AWG / 4		0.470	95	1000
	16 AWG / 6 §		0.495	124	1000
	16 AWG / 8 §		0.510	144	1000
Solid THHN/THWN	14 AWG / 2	14 AWG Green	0.550	88	1000
	14 AWG / 4		0.510	128	1000
	14 AWG / 6 §		0.520	168	1000
	14 AWG / 8 §		0.555	208	1000
	12 AWG / 2	12 AWG Green	0.495	118	1000
	12 AWG / 4		0.565	175	1000
Twisted Shielded Pair(s) Solid TFN	18 AWG / 2*	18 Tinned Cu.	0.470	88	1000
	16 AWG / 2*	18 Tinned Cu.	0.470	81	1000
	14 AWG / 2*	18 Tinned Cu.	0.550	89	1000
	12 AWG / 2*	18 Tinned Cu.	0.495	119	1000
	(2) 18 AWG / 2**	18 Tinned Cu.	0.470	80	1000
	(2) 16 AWG / 2**	18 Tinned Cu.	0.470	101	1000
	(2) 14 AWG / 2**	18 Tinned Cu.	0.510	132	1000
	(2) 12 AWG / 2**	18 Tinned Cu.	0.565	180	1000

* Twisted Shielded Cable construction with an aluminum/polyester foil-film laminate, foil facing in, with tinned copper drain wire
 ** Dual Twisted Shielded Pair Cable construction each with an aluminum/polyester foil-film laminate, foil facing in, with a tinned copper drain wire
 § 6/C and 8/C constructions are NOT Plenum Rated. These cables are dual rated as Type MC/FPL cables



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SPECIAL CONSTRUCTIONS

Trade Size Size (AWG) # of Cond.	Circuit Conductors	Grounding Conductor	Sub-Group Covering	Overall Assembly Covering	Approx. Outside Diameter (Inches)	Approximate Weight (lbs/1000 ft)	Standard Package
(1) 14/2 Solid THHN/THWN & (1) 16/2 Solid TFN PN1	Black, White & Black, White	14 AWG Green & 16 AWG Tinned	Mylar & Shielded	Mylar	0.590	131	1000' reel
(1) 14/2 Solid THHN/THWN & (1) 16/2 Solid TFN PN2	Black, White & Black, White	14 AWG Green	None & Mylar	Mylar	0.540	120	1000' reel
(1) 14/2 Solid THHN/THWN & (1) 16/2 Solid TFN PN3	Black, White & Red, Blue	14 AWG Green	None & None	Mylar	0.545	120	1000' reel
(1) 14/2 Solid THHN/THWN & (1) 16/2 Solid TFN PN4	Brown, Orange & Black, White	14 AWG Green	None & None	Mylar	0.545	120	1000' reel
(1) 14/2 Solid THHN/THWN & (1) 16/2 Solid TFN PN5	Brown, Orange & Red, Blue	14 AWG Green & 16 AWG Tinned	Mylar & Shielded	Mylar	0.590	120	1000' reel
(1) 14/2 Solid THHN/THWN & (1) 18/2 Solid TFN PN6	Black, White & Red, Blue	14 AWG Tinned & 18 AWG Tinned	Shielded & Shielded	Mylar	0.468	114	1000' reel

Features

- Plenum rating for use in Ducts, Plenum, or for environmental air handling spaces.
- Reduces installation costs up to 50% over pipe and wire.
- Lightweight aluminum armor - as much as 45% lighter than steel MC Cable (Galvanized Steel Available)
- UL Classified 1, 2, and 3 hour Through Penetration Firestop System: W-J-3037, W-L-3110, W-L-3113, W-L-3117, W-L-3120, W-L-3121, W-L-3160, C-AJ-3115, C-AJ-3140, C-AJ-3142, C-AJ-3145, C-AJ-3173, C-AJ-3203, C-AJ-4065, C-AJ-4066, F-C-3038
- Cable reverse would on reel for ease of pulling and installation.
- Optional film/foil shields available with tinned copper drain wire.
- Optional twisted cable pairs or subgrounds with optional shields and conductor colors.
- Anti-short bushings are not required for use with MC cable per the NEC and UL

PHASE CONDUCTOR	COLOR SEQUENCE 120/208Y
2	black, white 
3	black, white, red 
4	black, white, red, blue 
6	black, white, red, blue, brown, yellow 
8	black, white, red, blue, brown, yellow, gray, orange 
Grounding Conductor	Green Insulated or Tinned 



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